Chapter 1
INTRODUCTION

BACKGROUND

California's Porter-Cologne Water Quality Control Act (Porter-Cologne Act) established the State Water Resources Control Board (State Water Board) and divided the state into nine regional basins, each with a Regional Water Quality Control Board (Regional Board) (California Water Code [Water Code] Section 13200). The State Water Board is the "principle state agency with the primary responsibility for the coordination and the control of water quality" in California (Water Code Section 13201).

The Porter-Cologne Act authorizes the State Water Board to draft state policies regarding water quality and, in accordance with Water Code Section 13263, to develop general waste discharge requirements (WDRs) and project-specific WDRs for projects that would discharge into state waters. The Water Code requires that Regional Boards adopt water quality control plans (Basin Plans) in accordance with Section 13240. The State Water Board is allowed, but not required, to adopt Basin Plans in accordance with Section 13170 of the Water Code.

In January 2000, the State Water Board—in its continuing efforts to control nonpoint source (NPS) pollution in California—adopted the *Plan for California's Nonpoint Source Pollution Control Program* (NPS Program Plan) (State Water Board 1999). The NPS Program Plan upgraded the State's first *Nonpoint Source Management Plan* adopted by the State Water Board in 1988 (1988 Plan) (State Water Board 1988). Upgrading the 1988 Plan with the NPS Program Plan brought the State into compliance with the requirements of Section 319 of the federal Clean Water Act (CWA) and Section 6217 of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA). On May 20, 2004, the State Water Board adopted the *Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program* (NPS Implementation and Enforcement Policy). The NPS Implementation and Enforcement Policy was adopted by the State Water Board in order to comply with the 1999 amendment of the Porter-Cologne Act to enforce the State's NPS pollution control program. The program requires the Regional Board to regulate all NPS pollution and must meet five key elements:

- The NPS pollution control implementation program's ultimate purpose must be explicitly stated and, at a minimum, address NPS pollution control in a manner that achieves and maintains water quality objectives.
- The NPS pollution control implementation program must include a description of the management practices (MPs) and other program elements expected to be implemented, along with an evaluation program that ensures proper implementation and verification.
- The NPS pollution control implementation program should include a time schedule and quantifiable milestones, if the Regional Board so requires.

- The NPS pollution control implementation program must include sufficient feedback mechanisms so that the Regional Board, dischargers, and the public can determine whether the implementation program is achieving its stated purpose(s), or whether additional or different MPs or other actions are required.
- Each Regional Board must make clear, in advance, the potential consequences for failure to achieve an NPS pollution control implementation program's objectives, emphasizing that it is the responsibility of individual dischargers to take all necessary implementation actions to meet water quality requirements.

The Regional Boards have primary responsibility for ensuring that appropriate NPS pollution control implementation programs are in place throughout the state. Regional Board responsibilities include, but are not limited to, issuing WDRs or a waiver of WDRs for individual discharges or a category of NPS discharges, or adopting a Basin Plan amendment that addresses NPS discharges. Since 1982, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has regulated NPS discharges from agricultural lands through a waiver of WDRs. Senate Bill (SB) 390 involved changes to Section 13269 of the Water Code relating to how the Central Valley Water Board adopts waivers. The legislative change required that, if the Central Valley Water Board adopts waivers, they must comply with the new Section 13269—or the dischargers operating under the 1982 waivers would need to submit Reports of Waste Discharge and obtain WDRs, or comply with the Water Code. To comply with the requirements of SB 390, the Regional Board adopted a conditional waiver of waste discharge requirements for discharges from irrigated agricultural lands (2003 waiver program).

IRRIGATED LANDS REGULATORY PROGRAM

As part of the 2003 waiver program the Regional Water Board directed staff to prepare an Environmental Impact Report (EIR) for a long-term irrigated lands regulatory program. The 2003 interim waiver program was set to expire in 2006. In 2006, the Regional Water Board adopted a new conditional waiver for discharges from irrigated agricultural lands that continued the 2003 interim program until 2011. In the 2006 conditional waiver, the Regional Water Board reaffirmed the goal to develop a long-term program and EIR.

Purpose of This Report

The purpose of this existing conditions report is to support the development of a long-term irrigated lands regulatory program and associated EIR for the Central Valley. The information collected to support this purpose includes:

- A comprehensive survey of readily available and relevant digital coverage for the entire Central Valley in a geographic information systems (GIS) format.
  - topography
  - land use cover
  - water bodies
  - watershed boundaries
  - political boundaries
  - major roadways

- A comprehensive study of existing information related to water quality observations within the Central Valley watersheds.
  - general watershed parameters (e.g., acreage, land uses, major tributaries, and flows)
  - impaired list status
  - constituents of concern
  - discharge pathways and sources of contaminants (to the extent known)
- A general description of groundwater conditions in the Central Valley Water Board's jurisdictional area.

Program Boundaries and Subdivisions

Central Valley Water Board Jurisdictional Area

The jurisdiction of the Central Valley Water Board stretches from the Oregon border to the northern tip of Los Angeles County and includes all or part of 38 of the state's 58 counties. Three major watersheds have been delineated within this region, namely the Sacramento River Basin, the San Joaquin River Basin, and the Tulare Lake Basin. The three basins cover about 40 percent of the total area of the state and approximately 75 percent of the irrigated acreage (Central Valley Water Board 2002a). Much of the surface water supplies in the Central Valley originate north of the Sacramento–San Joaquin River Delta (Delta), while much of the water use is south of the Delta. While there is plenty of surface water in the Sacramento River Basin to meet the present level of demand, surface water supplies in the San Joaquin River and Tulare Lake Basins are inadequate to support the present level of agriculture and other development. In these basins, groundwater resources are being used to meet existing water supply demands.

The crests of the Sierra Nevada on the east and the Coast Ranges and Klamath Mountains on the west border the Sacramento and San Joaquin River Basins. The Sacramento and San Joaquin River Basins cover about one-fourth of the total area of the state and contain over 43 percent of the state's irrigable land. Surface waters from these two basins meet and form the Delta, which ultimately drains to San Francisco Bay. Major groundwater resources underlie both river valley floors.

The Sacramento River Basin covers 27,210 square miles. The principal streams in the basin are the Sacramento River and its larger tributaries: the Pit, Feather, Yuba, Bear, and American Rivers on the east; and Cottonwood, Stony, Cache, and Putah Creeks on the west. Major reservoirs include Shasta, Oroville, and Folsom.

The San Joaquin River Basin covers 15,880 square miles. The principal streams in the basin are the San Joaquin River and its larger tributaries and the Cosumnes, Mokelumne, Calaveras, Stanislaus, Tuolumne, Merced, Chowchilla, and Fresno Rivers. Major reservoirs include Pardee, New Hogan, Comanche, Millerton, McClure, Don Pedro, and New Melones.

The Tulare Lake Basin comprises the drainage area of the San Joaquin Valley south of the San Joaquin River and encompasses approximately 17,650 square miles. The valley floor makes up slightly less than one-half the total basin land area. The Kings, Kaweah, Tule, and Kern Rivers, which drain the west face of the Sierra Nevada, provide the bulk of the surface water supply native to the basin. Major reservoirs are Pine Flat, Kaweah, Success, and Isabella. Imported surface water enters the Tulare Lake Basin through

the San Luis Canal/California Aqueduct System, Friant-Kern Canal, and the Delta-Mendota Canal. This watershed comprises the entire valley floor and is called the South Valley Floor Watershed.

All area in the jurisdiction of the Central Valley Water Board is described in this report.

Surface Water

The Central Valley is divided into three major surface water basins: the Sacramento River Basin, the San Joaquin River Basin, and the Tulare Lake Basin (Figure 1-1). Each of these three basins has been divided into watersheds delineated by the California Department of Water Resources (DWR) CalWater boundaries (see Figures 3-1, 3-2, and 3-3 in Chapter 3). Surface water is discussed in Chapter 3 of this report.

Groundwater

Groundwater is discussed in Chapter 4 of this report. The groundwater basins within the three major watershed basins of the Central Valley have been delineated using the boundaries contained in DWR Bulletin 118. Figures 4-2, 4-3, and 4-4 in Chapter 4 show the boundaries of these basins.

Methodology for Data Collection

Collection of resources and data for surface water quality descriptions was accomplished by using various state and federal agency websites, water quality reports from various water quality coalitions, and other hard copy reports. Most of the surface water information came from existing reports. Because this existing conditions report covers such a large geographical area, however, information to assess a particular watershed often was insufficient. In those cases, best professional judgment and technical hydrological experience were used in the analysis.

Many types of data for surface water analysis are available from government agencies (e.g., DWR; U.S. Geological Survey [USGS]; and U.S. Department of the Interior (DOI), Bureau of Reclamation [Reclamation]) that routinely measure river flow, temperature, salinity, and other water quality parameters. Different agencies have collected data during various periods, at different stations, and with different parameters. These data are stored in various public and private databases that are operated by multiple agencies—making it difficult for stakeholders, agencies, or interested persons to access the full range of available data. Each type of data must be individually downloaded, processed, compiled, and compared.

Sources of information for each groundwater subbasin primarily included reports and data from DWR, California Department of Pesticide Regulation (DPR) and USGS. Specifically, land use data came from the DWR land use surveys conducted periodically throughout California. DWR 2004 Bulletin 118 was the primary source of information for subbasin hydrogeologic and physiographic descriptions. Chapters 3 and 4 contain more detailed information about respective sources of information.

REPORT ORGANIZATION

After this introductory chapter, the report is organized as follows:

- Chapter 2 provides the regulatory framework for the ILRP.
- Chapter 3 discusses surface water quality.
- Chapter 4 discusses groundwater quality.
- Chapter 5 describes irrigated lands and wetland management practices.
- Chapter 6 contains the references cited in the document.
- Appendices include detailed information related to surface water quality data, flow data, and water quality objectives for the watersheds addressed in the report.

PREPARERS

Preparation of the existing conditions report was overseen by staff of the Central Valley Water Board and was compiled by members of the ICF Jones & Stokes consultant team. ICF Jones & Stokes staff prepared the surface water and regulatory sections. HydroFocus compiled the Sacramento River Basin groundwater information, and Geomatrix compiled groundwater information for the San Joaquin River and Tulare Lake Basins. Agricultural land management practices were compiled by independent consultant Dr. Mark Roberson, and managed wetlands practices were compiled by independent consultant Joel Miller.